R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

THE SPECIFICATION

The specification has been amended to correct various minor informalities of which the undersigned has become aware, including all of the informalities pointed out by the Examiner.

No new matter has been added, and it is respectfully requested that the amendments to the specification be approved and entered, and that the objection to the specification be withdrawn.

THE DRAWINGS

Figs. 1-5 have been amended to change RELATED TECHNIQUE to PRIOR ART, as required by the Examiner.

Submitted herewith are corrected sheets of formal drawing which incorporate the amendments and annotated sheets showing the changes made thereto.

No new matter has been added, and it is respectfully requested that the Examiner's objection to the drawings be withdrawn.

THE CLAIMS

Claim 1 has been amended to clarify the feature of the present invention whereby the optical pickup unit comprises a semiconductor laser and a photodetector arranged separately from the semiconductor laser, as supported by the disclosure in the specification at page 6, lines 9-11, and as shown in Fig. 6 (see photodetector PD and semiconductor laser LD').

In addition, claim 1 has been amended to more positively recite the objective lens OL' and rising mirror MIR' as components of the optical pickup unit of the present invention, as shown in Fig. 6.

Still further, various minor additional amendments have been made to claims 1-3 to correct some minor informalities so as to place the claims in better form for issuance in a U.S. patent. These amendments are clearly not related to patentability, and do not narrow the scope of the claims either literally or under the doctrine of equivalents.

Yet still further, claim 4 has been added to recite the feature of the present invention whereby the photodetector includes signal taking-out pins which are arranged horizontally with a constant gap therebetween, as supported by the disclosure in the specification at, for example, page 7, lines 3-11.

No new matter has been added, and it is respectfully requested that the amendments to the claims be approved and entered.

THE PRIOR ART REJECTION

Claim 1 was rejected under 35 USC 102 as being anticipated by USP 5,592,460 ("Shindo"); claims 1 and 2 were rejected under 35 USC 103 as being obvious in view of the combination of USP 4,789,978 ("Shikama et al") and Shindo; and claim 3 was rejected under 35 USC 103 as being obvious in view of the combination of Shikama et al, Shindo and USP 5,420,848 ("Date et al"). These rejections, however, are respectfully traversed with respect to the claims as amended hereinabove.

According to the present invention as recited in clarified amended claim 1, an optical pickup unit is provided which comprises: a semiconductor laser (LD'); a photodetector (PD) arranged separately from the semiconductor laser (LD'); an objective lens (OL'); and a rising mirror (MIR'). As recited in amended claim 1, the optical pickup unit converges a laser beam produced by the semiconductor laser (LD') on a signal recording surface of an optical disc (Disc) through the object lens (OL') by reflecting the laser beam by a reflecting surface of the rising mirror (MIR'), and detects a return beam from the signal recording surface by the photodetector (PD) by reflecting the return beam by the reflecting surface of the rising mirror (MIR'). And as recited in amended claim 1, a rising angle between the reflecting surface of the rising mirror (MIR') and a

lower surface of the optical pickup unit is smaller than 45 degrees, and optical parts (GRT, BS', CL', EL', PD) including the photodetector (PD) are arranged in an optical base (OB) with the optical parts (GRT, BS', CL', EL', PD) inclined to the optical base such that the optical parts do not extend downwards from the lower surface of the optical pickup unit.

According to the present invention as recited in new claim 4, moreover, the photodetector includes a plurality of signal taking-out pins which are arranged horizontally with a constant gap therebetween.

As described in the specification at page 2, lines 10-14, the optical pickup unit according to the claimed present invention can be constructed using general-purpose optical parts, which are not costly. Therefore, the optical pickup unit according to the claimed present invention is advantageous in that it is inexpensive in comparison with optical pickup units using an expensive light emitting/receiving unit which integrally comprises a semiconductor laser, a photodetector, a diffraction grating, and a hologram element. (See the disclosure in the specification at page 1, line 21 to page 2, line 2.)

By contrast, Shindo merely discloses an optical pickup unit (20) including a light emitting unit (11) in which a semiconductor laser and photodetector are integrated. That is,

as disclosed in column 1, lines 22-25 of Shindo, a light emitting unit (11) "is provided in which a semiconductor laser, a light detector, a diffraction grating, and a hologram element for performing deflection and light dividing functions are integrated" (emphasis added). Thus, it is respectfully submitted that the light emitting unit (11) of Shindo merely corresponds to the prior art light emitting/receiving unit described in the specification of the present application at page 1, line 21 to page 2, line 1. And as described in the specification of the present application at page 2, lines 10 and 11, this type of light/emitting unit is disadvantageously expensive. In short, it is respectfully submitted that Shindo does not at all disclose, teach or suggest the feature of the present invention whereby the optical pickup unit comprises a semiconductor laser and a photodetector arranged separately from the semiconductor laser.

With respect to Shikama et al, on page 4 of the Office Action the Examiner acknowledges that this reference does not disclose, teach or suggest the features of the present invention whereby a rising angle between the reflecting surface of the rising mirror and a lower surface of the optical pickup unit is smaller than 45 degrees, and whereby optical parts including the photodetector are arranged in an optical base with the optical parts inclined to the optical base such that the optical parts do

not extend downwards from the lower surface of the optical pickup unit. For this reason, the Examiner has cited Shindo for the disclosure of the missing teaching of Shikama et al.

In particular, the Examiner asserts that the inclined light emitting unit 11 of Shindo corresponds to the inclined optical parts of the claimed present invention. It is respectfully submitted, however, that as pointed out hereinabove, the light emitting unit 11 of Shindo comprises a semiconductor laser, a light detector, a diffraction grating, and a hologram element which are integrally provided. And it is again respectfully submitted that the inclined light emitting unit 11 of Shindo does not at all correspond to the optical parts of the claimed present invention (or to the optical parts of Shikama et al). Accordingly, it is respectfully submitted that even though the integrally formed light emitting unit 11 of Shindo is inclined with respect to the optical base, this does not at all suggest that it would be advantageous to incline the separately provided optical parts of Shikama et al to achieve the structure of the claimed present invention as recited in amended claim 1.

It is respectfully submitted, moreover, that Date et al has merely been cited for the disclosure of a forward sensor.

In view of the foregoing, it is respectfully submitted that the present invention as recited in clarified amended claim 1, as

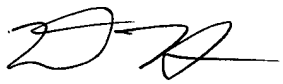
well as each of claims 2-4 depending therefrom, patentably distinguishes over Shindo, Shikama et al, and Date et al, taken singly or in any combination, under 35 USC 102 as well as under 35 USC 103.

* *

Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,



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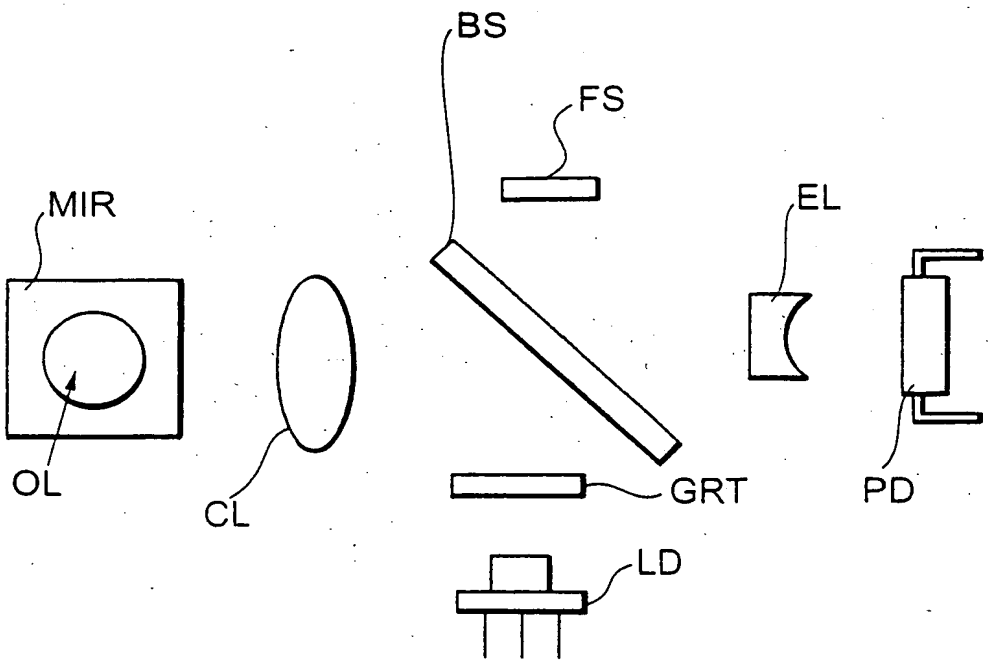

FIG. 1 ~~RELATED TECHNIQUE~~
PRIOR ART

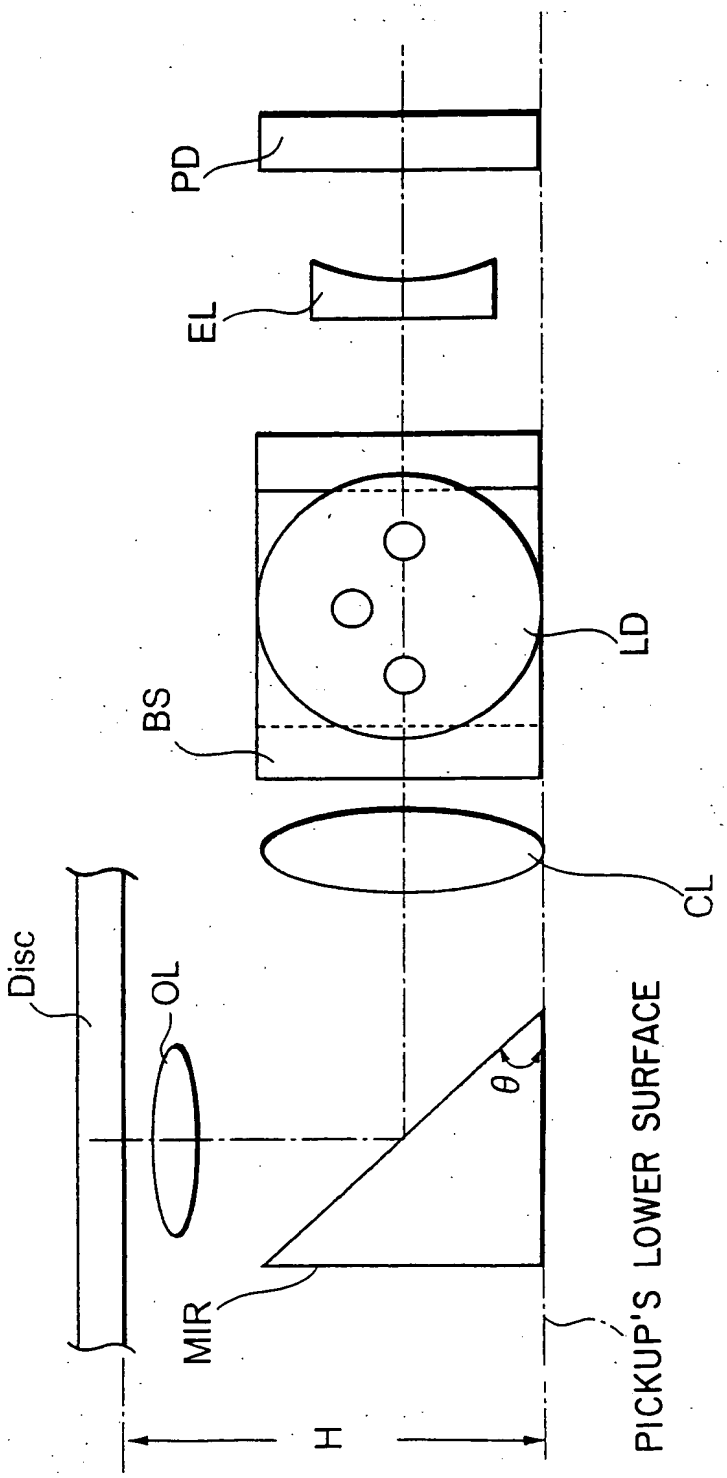

FIG. 2 ~~RELATED TECHNIQUE~~ PRIOR ART

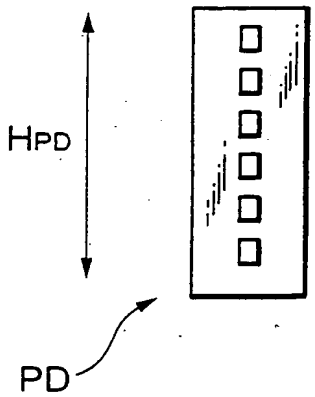

FIG. 3B
~~RELATED~~
~~TECHNIQUE~~
PRIOR ART

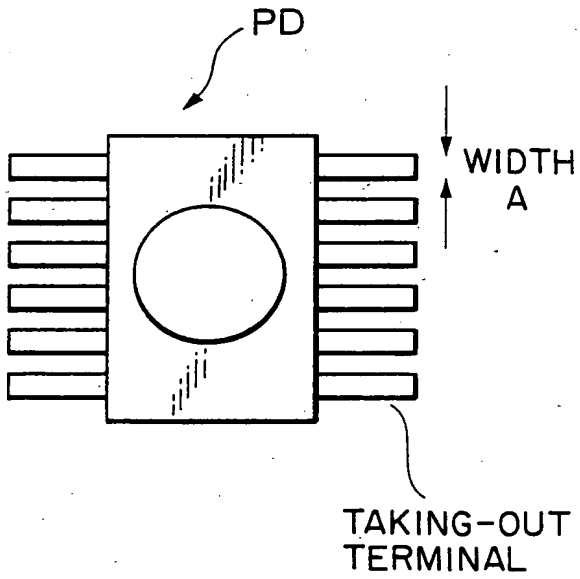

FIG. 3A
~~RELATED~~
~~TECHNIQUE~~
PRIOR ART

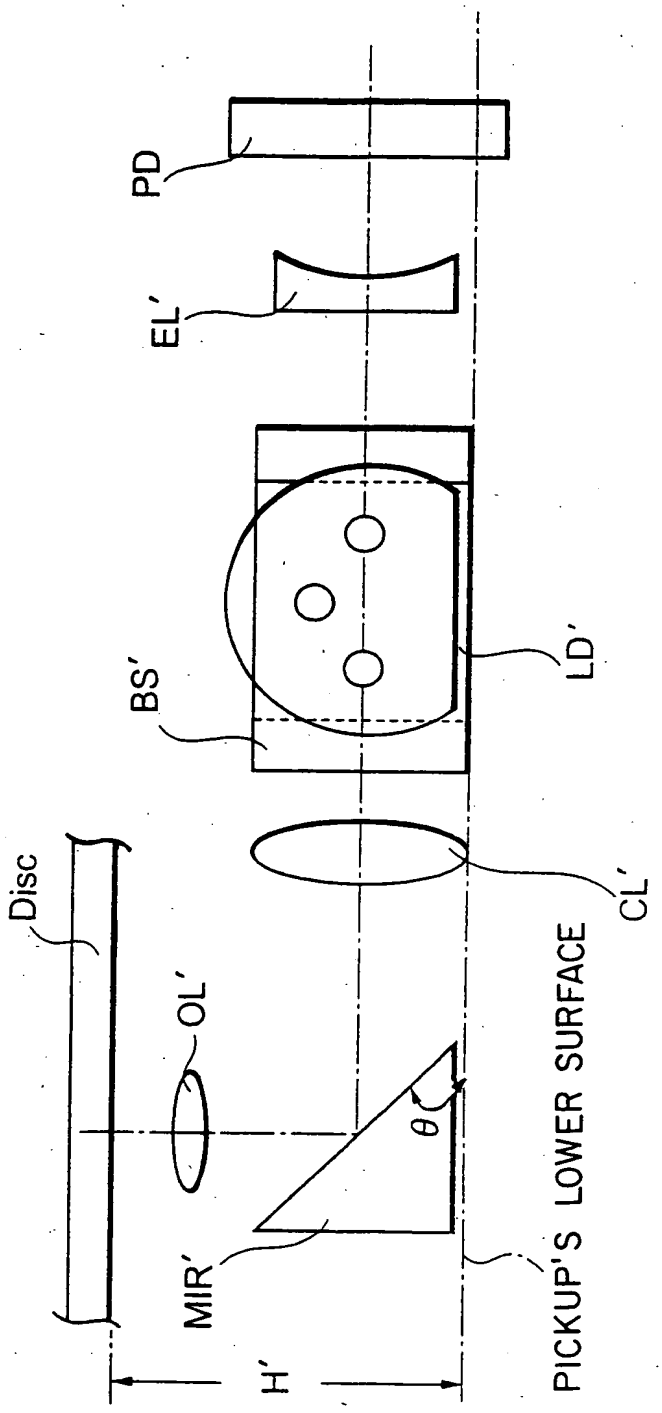

FIG. 4 ~~RELATED TECHNIQUE~~ PRIOR ART

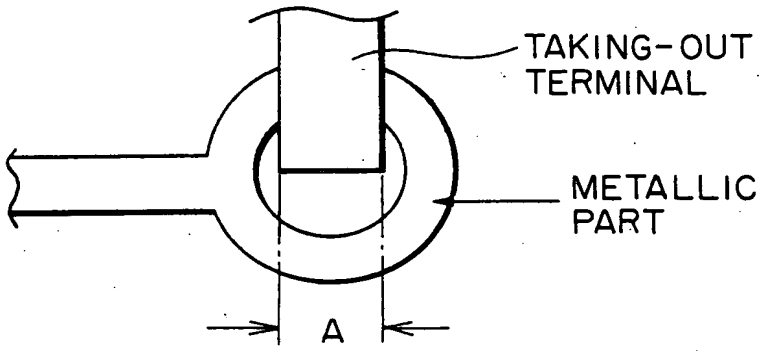

FIG. 5 ~~RELATED TECHNIQUE~~
PRIOR ART